

C l a i m s

1.
 - 5 A method of continuous hydrolysis of organic material, wherein the method comprises the following steps:
 - a) heating a sludge containing the organic material with a low content of abrasive components and a dry solids content of 1-20%, to a temperature of approximately 100 °C,
 - 10 b) mixing the sludge with steam at a pressure of 1-4 bar a,
 - c) leading the sludge/steam mixture to a preheating tank (4),
 - d) increasing the pressure of the sludge/steam mixture from 3 to 10 bar a,
 - e) leading the sludge/steam mixture to a reactor (7),
 - 15 f) depressurising the sludge/steam mixture to 1-4 bar a in a depressurising tank (10),
 - g) separating sludge and steam, and possibly cooling the sludge further.
 - 20 2. A method in accordance with Claim 1, wherein the sludge in step a) is heated through heat exchange with the sludge from step f).
 - 25 3. A method in accordance with one or more of the preceding Claims, wherein the residence time for the sludge/steam mixture in the reactor (7) is from 5 to 60 minutes at a temperature of 130-180 °C.
 4. A method in accordance with one or more of the preceding Claims, wherein the depressurisation of the sludge/steam mixture in the depressurisation tank is carried out by means of one or more nozzles (9).
 5. A method in accordance with one or more of the preceding Claims, wherein steam from the depressurisation tank (10) is mixed with the sludge in step b).

6.

An arrangement for continuous hydrolysis of organic material in the form of sludge with a dry solids content of 1-20%, where in the arrangement includes:

- 5 (i) a feed pump connected to a first heat exchanger (2) for heating the incoming sludge through heat exchange with the outgoing sludge,
- (ii) a mixing device (3) for mixing the sludge with steam, connected to the first heat exchanger (2),
- (iii) a preheating tank (4) connected to the mixing device (3),
- 10 (iv) a pump (5) for increasing the pressure of the steam/sludge mixture by from 3 to 10 bar a, connected to the preheating tank (4),
- (v) a reactor (7) at a temperature of 130-180 °C, connected to the pump (5),
- (vi) a depressurising tank (10) connected to the reactor (7), which depressurising tank (10) includes a nozzle (9) for depressurising the steam/sludge mixture to 1-4 bar

15 a.

7.

An arrangement in accordance with Claim 6, where in the depressurising tank (10) is connected to a pump (11) for pumping sludge from the depressurising tank (10) to the first heat exchanger (2).

8.

An arrangement in accordance with one or more of Claims 6-7, where in the depressurising tank (10) includes a control valve (13) with associated lines for controlling steam from the depressurising tank (10) to the mixing device (3).

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A method of and arrangement for continuous hydrolysis of organic material in the form of sludge with a dry solids content of 1-20% are described. The method includes the following steps:

- a) heating a sludge containing the organic material with a low content of abrasive components and a dry solids content of 1-20%, to a temperature of approximately 100 °C,
- b) mixing the sludge with steam at a pressure of 1-4 bar a,
- c) leading the sludge/steam mixture to a preheating tank (4),
- d) increasing the pressure of the sludge/steam mixture from 3 to 10 bar a,
- e) leading the sludge/steam mixture to a reactor (7),
- f) depressurising the sludge/steam mixture to 1-4 bar a in a depressurising tank (10),
- g) separating sludge and steam, and possibly
- g) cooling the sludge further.

The arrangement includes:

- (i) a feed pump connected to a first heat exchanger (2) for heating the incoming sludge through heat exchange with the outgoing sludge,
- (ii) a mixing device (3) for mixing the sludge with steam, connected to the first heat exchanger (2),
- (iii) a preheating tank (4) connected to the mixing device (3),
- (iv) a pump (5) for increasing the pressure of the steam/sludge mixture by from 3 to 10 bar a, connected to the preheating tank (4),
- (v) a reactor (7) at a temperature of 130-180 °C, connected to the pump (5),
- (vi) a depressurising tank (10) connected to the reactor (7), which depressurising tank (10) includes a nozzle (9) for depressurising the steam/sludge mixture to 1-4 bar a.

Figure 1